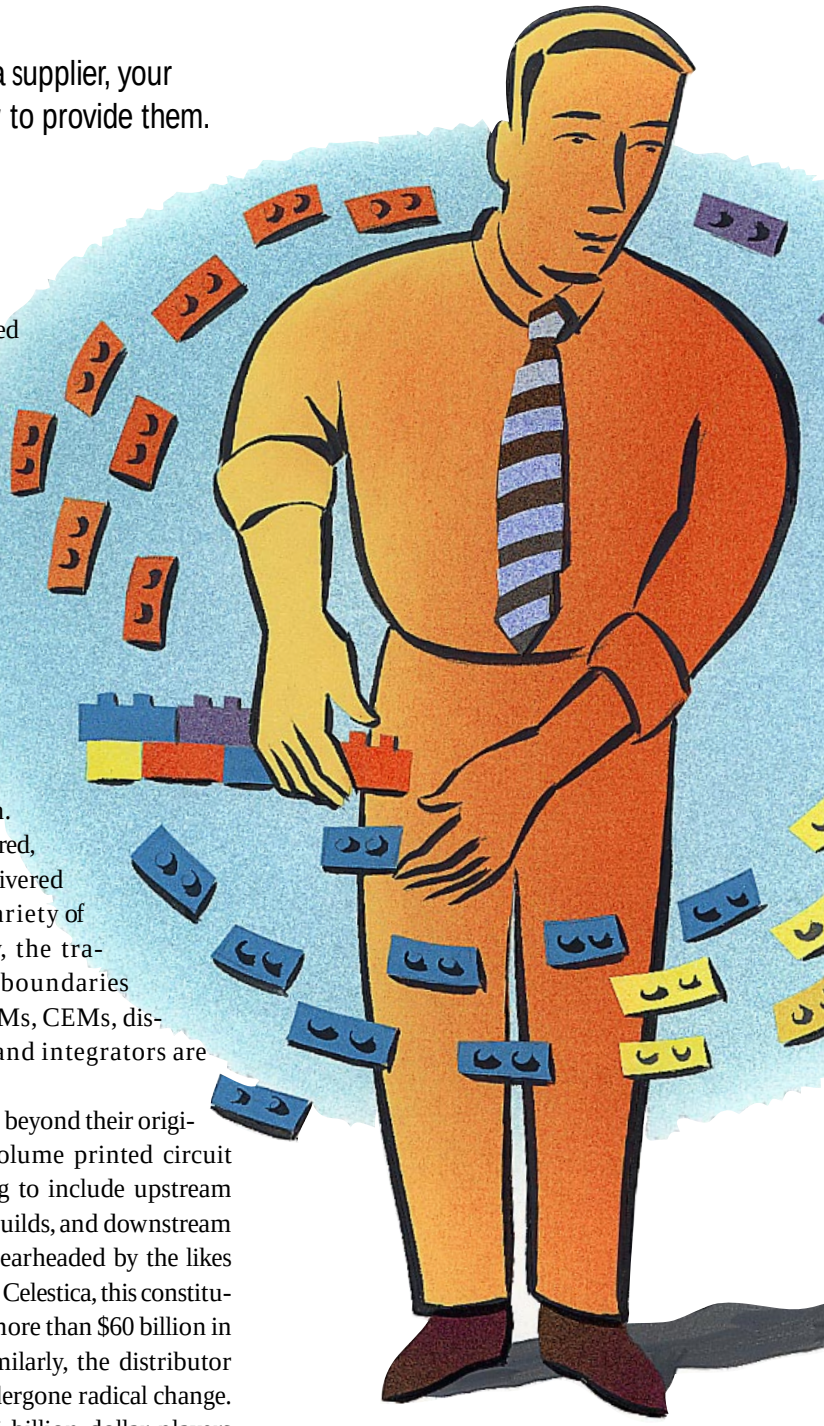
Configuring Your Supply Chain to Provide Your Customer's Total Solution

Whether you're a manufacturer, a reseller, a distributor, or a supplier, your customers are looking to you for total solutions. Here's how to provide them.

By Varun Nagaraj & Raj Nooyi



In the computer industry, business has never been more challenging. Markets are fragmented, competition is fierce, customers are demanding, price erosion is a reality, margins are under pressure, quality is the price of entry, and product life cycles are down to less than nine months, in some cases.

In an attempt to differentiate themselves and gain competitive advantage, companies across the spectrum of providers—Original Equipment Manufacturers (OEMs), Contract Engineering Manufacturers (CEMs), distributors, resellers, and integrators—are repositioning themselves as "solution providers." Yet there is little agreement within the computer industry on what the term "solution" means. Moreover, there appears to be limited appreciation of the complexities of configuring supply chains to provide such solutions.

A computing generation ago, when customers needed solutions, they turned to full-line OEMs such as IBM, HP, Unisys, and Digital. These companies designed and manufactured most of the solution building blocks and took responsibility for specifying, configuring, and subsequently supporting their primarily proprietary solutions. But, over the last several years, the industry landscape has changed significantly. Relentless focus on core competencies and creation of open architectural standards have resulted in the rapid growth of specialists, such as CEMs, distributors, resellers, and integrators.

Now, as a result of the emphasis on heterogeneous or customized solutions, the industry landscape is changing once again. Solutions can be ordered, configured, and delivered in a bewildering variety of ways. Consequently, the traditional labels and boundaries associated with OEMs, CEMs, distributors, resellers, and integrators are becoming blurred.

CEMs have grown beyond their original niche of high-volume printed circuit board manufacturing to include upstream design services, box builds, and downstream logistical services. Spearheaded by the likes of SCI, Solectron, and Celestica, this constituency now generates more than $60 billion in annual revenues. Similarly, the distributor constituency has undergone radical change. Dominated by multi-billion-dollar players

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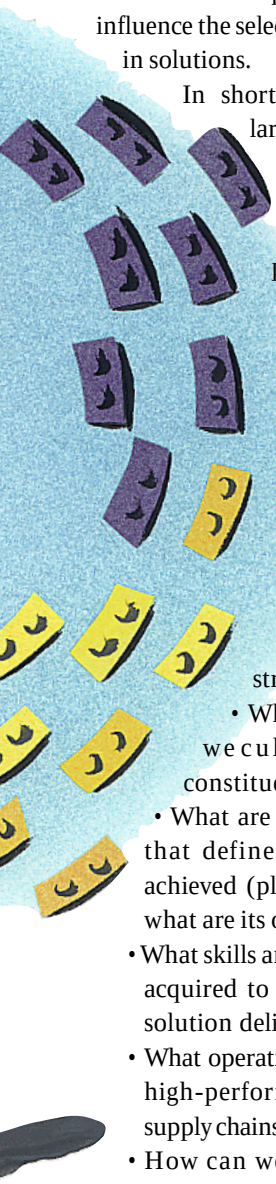
such as Ingram Micro, Tech Data, MicroAge, Merisel, and Inacom, this segment now accounts for more than $40 billion in annual revenues. Its service portfolios have evolved to incorporate solution design, customized box manufacturing or channel assembly, and multi-vendor support. At the same time, resellers and systems integrators such as EDS, VanStar, and CompuCom have built up a primarily value-added service-based revenue stream in excess of $50 billion. In the meantime, OEMs have been reinforcing their value-added services and solution focus in an attempt to improve margins and influence the selection of components used in solutions.



In short, each constituency is now large and powerful. This has resulted in a very complex and potentially divisive environment. The complexities of this landscape raise several critical questions for every constituency and company in the solution delivery chain:

- What customization and integration service portfolio best matches evolving customer needs with our strengths?
- Which partnerships should we cultivate among other constituencies?
- What are the rules of engagement that define how customization is achieved (players, location, etc.) and what are its operational implications?
- What skills and infrastructure must be acquired to support integration and solution delivery?
- What operational practices distinguish high-performing, solution-oriented supply chains from average performers?
- How can we translate insight into action?

In this article, we present a framework to systematically answer these questions. The framework is organized around three critical steps: defining and shaping your strategic context; establishing a winning infrastructure; and excelling at core operational processes. The lessons outlined below are applicable not only to all constituents within the computer industry, but also to managers in other industries who are embracing solution selling.

Step 1: Defining and Shaping Your Strategic Context

In the delivery of customized solutions, customization and delivery characteristics are as important as customer buying characteristics. Unfortunately, the people in the best position to bring operational insight to the implications of delivery characteristics often are not part of the strategy process. And even if they are, these operations professionals typically view their task in generic terms—for example, the achievement of low-cost customization across their customer base. While such an approach may effectively support part of their business, it may be irrelevant in other market segments.

PRTM has helped companies implement an operationally informed and structured approach to systematically build winning solution portfolios and to identify partnership opportunities. The approach identifies the set of potential service and solution offerings based on a detailed evaluation of market requirements and customer needs. It also assesses internal and competitive capabilities. The analysis framework balances traditional tools, such as interviews, surveys, site visits, and industry research, with sophisticated techniques, such as cluster analysis, conjoint analysis, and cost structure teardowns.

The potential service and solution portfolio then is rigorously assessed against a set of customer-value filters and internal criteria. The analysis in this phase focuses on quantifying the value assigned by customers to each potential offering and understanding the cost implications of alternate delivery mechanisms. The revenue contribution and capital requirements associated with each offering are estimated. Finally, strategic filters such as fit with desired competencies and contribution to account control are applied.

At the completion of the analysis, the company defines the key elements of a "supply-chain-informed" strategy. These include: customer segments and offerings; delivery mechanisms (internally delivered versus partnership-based) for each customer-offering pair; new partnerships/alliances required and rules of engagement; organizational skills and linkages; and management metrics.

Step 2: Establishing a Winning Infrastructure

Executives often are told that they have two broad choices in designing their supply chains: They can focus on responsiveness and flexibility, or they can concentrate on efficiency and cost. Such a monolithic approach to supply-chain configuration does not take into account the complexities associated with customized solution delivery. The "one size fits all" approach can result in some customer segments being serviced at a level greater than they warrant, while other segments remain underserved relative to their need.

Leading companies optimize and configure their supply chains to support customized solution delivery by applying three best practices.

Model your solution delivery infrastructure—Companies need a systematic way of understanding the service level, cost, and margin implications of various supply-chain configurations. They also need a means of identifying supply-chain levers critical to their success. Yet most struggle to develop a common vocabulary that describes and communicates their supply-chain configurations—both internally and to their partners.

One tool for accomplishing this is the Supply Chain Operations Reference-model (SCOR). SCOR was conceived and championed by PRTM with the support of the Supply-Chain Council

ILLUSTRATION BY KATHERINE MAHONEY

(http://www.supply-chain.org), a coalition of more than 300 leading companies. The model allows organizations to map, communicate, and subsequently configure their supply chains using a hierarchical tool kit of reconfigurable processes. Once a descriptive model of the relevant supply chain has been configured, simulation and modeling techniques can be used to further optimize it.

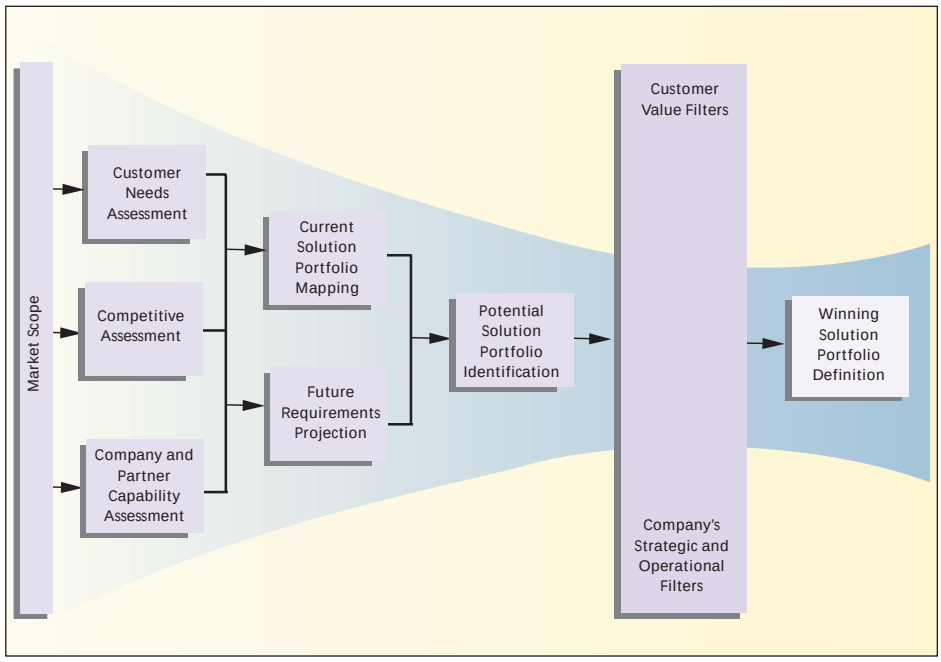
Use postponement principles[1] across the supply chain—Best-in-class companies have recognized that postponing the finalization of the product or solution until the latest possible point in the supply chain minimizes inventory and reduces order-fulfillment time. Such companies use economic modeling to determine the net benefits from postponement on a product-by-product basis. Economic modeling maximizes profitability by trading off unit cost against overall supply-chain costs.

In our experience, well-implemented Design for Logistics (DFL) programs are at the heart of successful product or solution postponement strategies. DFL increases product and solution variety and gross margins by emphasizing greater product and process modularization and standardization. We recognize that two practical approaches underlie most successful DFL implementations: learning from DFL postmortems conducted on recent products and solutions, and enhancing development and decision-making processes with a total life-cycle cost model and a focused set of DFL metrics.

Use shared risk and rewards to guide partner alliances—Most executives recognize the positive potential of collaborative relationships among suppliers, service providers, and customers. Yet less than half participate in supply-chain arrangements that exceed traditional buy-sell relationships. Even fewer implement cooperative arrangements that are based on shared risk and reward principles.[2]

Yet close cooperation with partners is mandatory in today's solution business. In order to economically increase market and customer coverage, each company must identify a set of complementary partners and define the appropriate rules of engagement. Alliances also mitigate the risks associated with making large capital investments in an environment characterized by technical and market uncertainty.

Building a Winning Solution Portfolio



Joint Service Agreements (JSAs) based on shared risk and reward can facilitate structured cooperation between partners. JSAs define the product supply method, supply frequency, performance metrics, issue-escalation procedures, and resolution protocols.

Step 3: Excelling at Core Operational Processes

What are the core operational processes that need to be implemented to maximize the benefits from a good strategy and infrastructure? Three practices have the potential to make or break a company's best-laid plans:

Proactive and integrated order management—One of the side effects of a solution focus is a dramatic increase in the complexity of customer orders. The few companies that have successfully made the product-to-solution transition have abandoned their conventional viewpoint of order management as an administrative function and have radically redesigned their order-management process, using a case manager approach. The case or project manager coordinates the solution-delivery-chain elements, based on the company's supply-chain guidelines describing optimum combinations of service levels, cost requirements, integration locations, and preferred partners. The project manager's role extends to working with the various entities in the chain to define and validate the desired solution, to develop quality work instructions, and to share knowledge. A final benefit of this approach is that the project manager is able to communicate the value of the company's integration and logistical services to the customer and thereby justify pricing.

Timely third-party and customer-consignment management—Heterogeneous solutions usually are based on components sourced from several entities. Occasionally, solutions also include components that are procured and owned by the customer. These factors add complexity to the standard operations activity of procuring and tracking material. In their attempt to satisfy customers, some

companies have adopted measures that add significant, and often irrecoverable, costs to their operations. Several companies, for instance, allow their customers to ship consignments to them at any time, in any shape. This often results in taking on risk in the form of shrinkage, consignments that are misplaced within warehouses, and so on. In contrast, more successful companies adopt procedures to minimize the costs and risks of managing customer consignments. For example, they often procure components on behalf of the customer. In instances where customers insist on procuring components and shipping them to the company for integration, these companies enforce strict ship windows and charge consignment-holding costs back to the customer (for shipments outside the window) to ensure that a shipment coincides with the planned creation and delivery of the entire solution.

Regular demand/capacity balancing—Periodic balancing profiles the deal funnel at the right level of granularity, identifies the specific skill mix required to satisfy the upcoming stream of orders, and ensures that the value-adding entity's capacity or resources can be optimally allocated to upcoming projects. The solution pipeline balancing process should be the responsibility of the supply-chain entity that provides most of the value-add and is likely to be the potential bottleneck. Successful solution balancing requires a very tight linkage between the entity's operations and the business development functions.

Using the 3-Step Framework to Drive Change

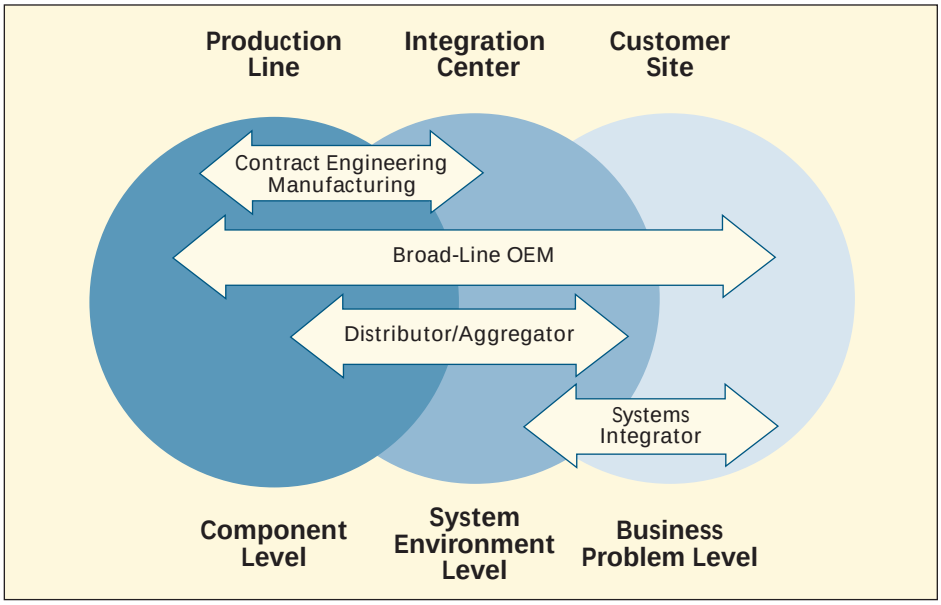
As companies reconfigure their supply chains to support solution delivery, it is often difficult to identify whether the most pressing issue is strategy, infrastructure, or execution. Even in situations where the problem statement is detailed and accurate, change is difficult to implement without organizational buy-in, measurable targets, and early wins.

Companies should use the three-step framework presented in this article to structure their assessment and implementation activities. A detailed quantitative and qualitative assessment of the organization's entire supply chain should cover all three aspects: strategy, infrastructure, and execution. The assessment should identify and prioritize the barriers to world-class performance and create an actionable program road map. The findings from the assessment should also be used to craft a value proposition—the quantitative business benefits from addressing the identified issues—and to secure organizational commitment.

Regardless of whether the implementation is focused on defining the appropriate strategic context, establishing a winning infrastructure, or excelling at core operational processes, proven program management techniques should be used to support rapid implementation. Structured process and time-phased workplans, for example, will help senior management understand exactly what to expect and guide their implementation activities. Pilot projects will prove concepts within each distinct environment, demonstrate possibilities, deliver immediate benefits, and encourage organizational commitment. Cross-functional project teams will provide the required expertise and ownership. The challenge is to apply these and other tested approaches in a disciplined manner to drive lasting change.

By combining the framework outlined here with a fact-based assessment and implementation methodology, companies can turn the solution delivery challenge into a rewarding opportunity for growth and profit. ■

Location and Level of Solution Customization



Varun Nagaraj is a manager at PRTM, and Raj Nooyi is a director. An expanded version of this article first appeared in Supply-Chain Management Review *(Winter 1998).*

Further Reading

[1] Ed Feitzinger and Hau L. Lee. "Mass Customization at HP: The Power of Postponement," *Harvard Business Review*, January-February 1997, pp. 116-121.

[2] Marshall Fischer, "What Is the Right Supply Chain for Your Product?" *Harvard Business Review,* March-April 1997, pp.105-116.